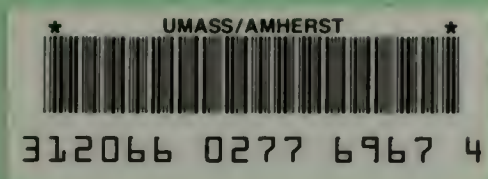


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ATTACKING ASTHMA

Combating an epidemic among our children

**A Report of the
Senate Committee on Post Audit and Oversight
December 2002**

Massachusetts Senate

The Honorable Thomas F. Birmingham
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The Senate Committee on Post Audit and Oversight works to ensure that state government is accountable to the citizens of the Commonwealth. The Committee's charge is to monitor compliance with state laws, to act as a watchdog to protect taxpayers from waste and fraud, to evaluate the efficiency and effectiveness of state agencies and programs, and to recommend corrective actions through legislation, regulation and administrative initiatives.

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EXECUTIVE SUMMARY

Asthma is the most common chronic illness among children and is the leading cause of missed school days due to chronic conditions in the United States. On average, schoolchildren across the country miss 14 million school days each year due to health problems related to asthma.

In 1998, the President's Task Force on Environmental Safety Risk to Children declared asthma a national epidemic. Asthma affects 17.3 million people in the United States and results in more than 12,000 asthma-related deaths each year. According to the National Institutes of Health, direct and indirect costs of pediatric asthma total \$3.2 billion annually. Massachusetts is not immune from this public health problem. State Department of Public Health records indicate that in 1998 10% of Massachusetts children had experienced symptoms of asthma. Latest statistics available indicate that direct and indirect costs associated with pediatric asthma in Massachusetts approached \$77 million annually.

It costs significantly more to take care of a child with asthma. In a University of Washington analysis, it costs nearly three times more to provide health care for a child with asthma than a child without asthma. In comparison to children without asthma, children with asthma take three times as many prescriptions and are admitted to the hospital three times as often.

Massachusetts can do more to effectively combat asthma among our children. There are troubling concerns with gaping holes in asthma data, lack of access to asthma medical supplies and education, school buildings that are in disrepair, and hazardous air pollution. Some of the concerns include the following:

- *Alarming rates of asthma.* Urban areas are particularly hard hit with higher asthma rates. In Roxbury, a neighborhood of Boston, State Senator Dianne Wilkerson visited an afterschool program and noticed asthma inhalers in 17 out of 20 cubbyholes. In Roxbury, the rate for asthma-related hospitalizations among children is five times the statewide average. Due to the lack of a statewide asthma registry, the full extent of this problem is unknown.

Late one night in March 2001, 16-year-old Marquise McGregor stopped breathing as a result of an acute asthma attack. Emergency workers tried to pump air into the lungs of the Brighton High School student but could not save him.

- *Substandard Schools.* A report based on a federal study in 1999 by the TEAM Education Fund (now the Massachusetts Budget and Policy Center) declared that Massachusetts has among the worst school buildings in the nation. Another study of 16 schools conducted jointly by the Department of Public Health and Department

of Environmental Protection in 1999 found that all had indoor air quality problems and all violated at least one DEP environmental rule.

- *Awful air.* In 2002 Massachusetts experienced the highest recorded number of "bad air days" in 14 years, despite federal and state mandates in place to mitigate air pollution such as the 1990 Clean Air Act and the state's anti-idling law (M.G.L. Ch. 90 §16A).
- *Lack of Insurance Coverage of Asthma Medical Supplies and Education.* Many health insurance policies often do not cover preventative asthma supplies, services or education specialists.

The good news is that asthma, once diagnosed, can be controlled with proper monitoring and medical treatment, and management of environmental conditions that can trigger attacks. In addition to medication, many other tools are available to help children reduce the severity and frequency of asthma attacks and thereby improve their quality of life. The success of these intervention tools is typically measured by how well children are able to control their asthma and avoid costly visits to the hospital or prevent missed school days.

South End Success Story

Jonathan was an eight-year-old patient of Dr. Joseph Carrillo at the South End Community Health Center. According to Dr. Carrillo, Jonathan was diagnosed with asthma when he was two years old. Jonathan's mom was a working single mother juggling two jobs and the family had no health insurance. In first and second grade, Jonathan's asthma caused him to miss 40 days of school and forced many trips to the hospital emergency room. Jonathan's mom missed so much time from work to take care of him that she lost one of her jobs and subsequently fell behind in making utility and rent payments. She also fell into debt due to thousands of dollars in medical expenses. By the time Dr. Carrillo first saw Jonathan, the family was in great distress. Dr. Carrillo referred them to an asthma education program that helped the family acquire Medicaid and develop an asthma management plan to keep at home, school and the health center. As a result of using the management plan, Jonathan missed only one day of 3rd grade and did not make any asthma-related visits to the hospital or emergency room.

Other local and state governments, including New York City, Los Angeles, Vermont, and Connecticut, have made significant progress in the area of improving conditions for asthmatic schoolchildren. This report highlights model methods that control asthma and can prevent debilitating and disruptive asthma attacks among our children.

Efforts occurring within Massachusetts to combat the epidemic of asthma deserve recognition.

- The state Department of Public Health (DPH) is leading national efforts to create a pediatric asthma tracking system. The DPH recently secured a \$2.4 million grant from the Centers for Disease Control and Prevention (CDC), part of which will be used to develop a registry to track cases of pediatric asthma in Massachusetts. The registry will serve as a model for the nation.
- The Massachusetts Bay Transportation Authority has replaced some of its air polluting diesel buses with cleaner natural gas buses.
- The state legislature passed a bill into law allowing children to carry their asthma inhalers during school hours, rather than having to store the inhalers at the nurse's office.
- Several Massachusetts school districts implemented techniques from the Environmental Protection Agency's Tools for Schools Kit, which helped school officials identify and remediate air quality problems that aggravated asthma in students and faculty.

A Winchester Win

At the Lynch Elementary School in Winchester, parent Mary Beth Cassidy initiated the successful use of the EPA's "Tools for Schools" Kit and received the full participation and support of the principal, school nurses, other parents, and the Town. According to Mary Beth, her 5-year-old son, upon entering kindergarten, suffered greatly from asthma and allergy related health problems that required visits to the doctor every week and up to four different medications that had to be administered several times a day. After the school implemented recommendations of the kit, including such simple projects as removing carpet from classrooms and fixing an old HVAC system, her son's condition improved dramatically. Within one month from the time the HVAC system was repaired, her son was taken off all but one mild medication and even won a 1st grade road race.

Although in Massachusetts there are many groups convening to address the enormous problem of asthma among our children, state government can do more to support efforts already in place. This report highlights only some of the many possible angles from which to reduce both the severity and rates of asthma in children. If Massachusetts takes action now to effectively address pediatric asthma, then the state can improve the quality of life of these children and reduce costs associated with medical care and lost productivity for young asthma sufferers, their caretakers and society.

FINDINGS AND RECOMMENDATIONS

INSURANCE AND EDUCATION

FINDING: Medical insurers are not required to cover asthma medical supplies or education specialists, despite their usefulness in identifying, managing and controlling asthma. Medical supplies that could aid children in managing and controlling their asthma include peak flow meters that help determine the appropriate time for asthma medication; spacers for asthma inhalers that help deliver the right amount of medication; and allergen-free pillowcases and mattress covers. Certified asthma educators are also critical in providing the consistent education, expertise and support asthmatics need to successfully identify and manage asthma.

RECOMMENDATION: Massachusetts law should require health insurance coverage of asthma medical supplies and certified asthma educators. Preventative measures can save lives and prevent suffering, while saving both insurers and the state a significant amount of money.

FINDING: Programs like the Breathmobile, which is a roving clinic on wheels for asthmatic school children that is used in a number of urban areas across the country, have shown significant results. These programs provide a comprehensive asthma management strategy. For instance, after the first year of enrollment, students participating in the Los Angeles Breathmobile program reported up to 80% fewer school absences due to asthma.

RECOMMENDATION: The Massachusetts Department of Public Health (DPH) should establish a comprehensive asthma education and intervention program for use in the Commonwealth that draws upon the experiences of programs like the Breathmobile.

STATE MONITORING EFFORTS

FINDING: The lack of a centralized state registry of data on asthma makes it impossible to understand and analyze the scope of the problem and to develop comprehensive pediatric asthma management strategies. In a step in the right direction, DPH secured federal grant money to develop a model pediatric asthma tracking system. Statutory language is needed to create an all-encompassing asthma registry and to effectively integrate data from the pediatric asthma tracking system.

RECOMMENDATION: Massachusetts should establish a centralized state asthma data registry based on current work by DPH to develop a pediatric asthma tracking system. The Legislature should adopt any necessary legislation or changes to the law, such as reporting requirements, to maximize the effectiveness of the registry.

FINDING: Despite growing problems of poor air quality in schools and other public buildings, there is no enforceable set of indoor air quality regulations in Massachusetts.

RECOMMENDATION: DPH should be authorized and directed to promulgate and enforce indoor air quality regulations in schools and public buildings.

PROTECTING CHILDREN IN SCHOOLS

FINDING: The School Building Assistance (SBA) program at the Department of Education (DOE) has no staff member dedicated to reviewing issues of environmental health, safety and indoor air quality (IAQ) in public schools. Nearly \$230,000 in grant money was awarded to DOE in July 2002 to hire a green schools specialist that could review IAQ issues, but the job announcement has not yet been posted.

RECOMMENDATION: By March 2003 the DOE should hire a green schools specialist that can assist in updating the SBA guidelines to encourage a stronger commitment to environmental health, safety and IAQ issues in schools, including stronger incentives to develop and implement maintenance plans.

FINDING: The EPA has developed and distributes Tools for Schools, a kit designed to help school officials identify and reduce problems with indoor air quality. Although many schools in Massachusetts have received the kit, the vast majority has not implemented the kit recommendations. Approximately 4% of Massachusetts schools have successfully implemented these kits.

RECOMMENDATION: All schools in Massachusetts should implement the EPA's Tools for Schools kit or a similar plan. Vermont and Connecticut have embarked on an initiative to implement the kit in all their schools; Massachusetts should make the same commitment. The state Board of Education should adopt the goal of implementing Tools for Schools kits in every Massachusetts public school.

AIR QUALITY

FINDING: Idling vehicles, including public transit buses and other vehicles that use diesel fuel, are polluting outdoor air. In 2002 Massachusetts experienced the highest record number of "bad air days" in 14 years. The state's anti-idling law, which restricts unnecessary idling to five minutes, was implemented to mitigate air pollution problems but according to state and local officials, many motorists are unaware of the law.

RECOMMENDATION: There should be more emphasis on education and enforcement of the state's idling law. DEP should work with other state agencies and environmental organizations to initiate a statewide public media campaign about the anti-idling law. For instance, brochures about the anti-idling law could be distributed to all motorists through license registration renewal mailings by the Registry of Motor Vehicles, and information on the anti-idling law should be featured on the RMV's frequently-used website.

BACKGROUND

Asthma is a chronic respiratory disease that diminishes and disrupts the quality of life for asthmatics and their immediate caretakers. Despite its pervasiveness in the population, the cause of asthma is unknown and there is no available cure. Asthma is the most common chronic illness among children and is the leading cause of missed school days due to chronic conditions in the United States. On average, schoolchildren across the country miss 14 million school days each year due to health problems related to asthma.¹

According to the National Institutes of Health, direct and indirect costs associated with asthma reached \$11.3 billion in 1998.² Costs related to pediatric asthma accounted for \$3.2 billion.³ Latest statistics available indicate that in 1998 direct and indirect costs associated with pediatric asthma in Massachusetts approached \$77 million annually.⁴

Indirect costs include lost wages and a loss in worker productivity when, for instance, caretakers need to suddenly leave their job to aid a child suffering from an asthma attack.

South End Success Story

Jonathan was an eight-year-old patient of Dr. Joseph Carrillo at the South End Community Health Center. According to Dr. Carrillo, Jonathan was diagnosed with asthma when he was two years old. Jonathan's mom was a working single mother juggling two jobs and the family had no health insurance. In first and second grade, Jonathan's asthma caused him to miss 40 days of school and forced many trips to the hospital emergency room. Jonathan's mom missed so much time from work to take care of him that she lost one of her jobs and subsequently fell behind in making utility and rent payments. She also fell into debt due to thousands of dollars in medical expenses. By the time Dr. Carrillo first saw Jonathan, the family was in great distress. Dr. Carrillo referred them to an asthma education program that helped the family acquire Medicaid and develop an asthma management plan to keep at home, school and the health center. As a result of using the management plan, Jonathan missed only one day of 3rd grade and did not make any asthma-related visits to the hospital or emergency room.⁵

¹ See <www.cdc.gov/nceh/airpollution/asthma/children.htm> visited 17 Dec. 2002.

² National Institutes of Health. National Heart, Lung, and Blood Institute Data Fact Sheet: Asthma Statistics. January 1999: p.6. Direct costs refer to medical care provided by hospitals, physicians and associated medication; indirect costs are related to lost days from school or work.

³ "Trends in the Costs of Asthma in the United States, 1985-1994" see <www.aafa.org/templ/display.cfm?id=16&sub=67> visited 22 Sept. 2002. Pediatric asthma typically pertains to asthma among children 17 years of age or younger.

⁴ "The Costs of Asthma in Massachusetts." Asthma and Allergy Foundation of America. See <[www.aafa.org/stables.cfm](http://www.aafa.org/states/sttabl.cfm)> visited 18 Dec. 2002.

⁵ Carrillo, Dr. Joseph. Vice President of Community Health Services. Children's Hospital Boston. Testimony. Public Hearing. Health Care Committee. Massachusetts State House. 17 Apr. 2001.

Asthma affects 17.3 million people in the United States and results in more than 12,000 asthma-related deaths each year.⁶ About 4.5 million children have asthma.⁷

In Massachusetts, 10% of our children have suffered symptoms of asthma.⁸ According to the Asthma and Allergy Foundation, latest statistics available indicate that 102,500 children reported having asthma in the Commonwealth.⁹ Prevalence rates of pediatric asthma are highest in Suffolk and Hampden Counties, which include the cities of Boston and Springfield.¹⁰

In general, asthma has a more severe effect on children. Due to the smaller and narrower size of their respiratory pathways, children are more sensitive to particulate matter and other irritants that can trigger an asthma attack. Children also play more vigorously outdoors and breathe at higher rates than adults; bad air quality therefore has a greater impact on children's respiratory systems.

Common triggers of asthma attacks include cigarette smoke, mold, dust mites, and insect and rodent droppings. Attacks may also be brought on by excessive physical activity or stress. Elements of a child's environment play a major role in triggering asthma attacks. For instance, asthma rates are higher among children who live in urban areas, which tend to harbor higher concentrations of environmental pollutants. These pollutants may come from a variety of sources including second-hand cigarette smoke, excessive exhaust from nearby transportation depots and dirty conditions due to improper rental and housing property maintenance.

Urban Concerns

Late one night in March 2001, 16-year-old Marquise McGregor stopped breathing as a result of an acute asthma attack. Emergency workers tried to pump air into the lungs of the Brighton High School student but could not save him.¹¹

Children from urban areas appear to suffer from asthma at a rate much higher than the rest of the state. In Roxbury, a neighborhood of Boston, State Senator Dianne Wilkerson visited an afterschool program and noted asthma inhalers in 17 out of 20 cubbyholes.¹² To Senator Wilkerson, it was a "shocking picture of reality" and she said, "That's not the way it used to be and that's not the way it's supposed to be."¹³ In Roxbury, the rate of asthma-related hospitalizations among children is five times higher than the statewide average.¹⁴

⁶ Public Health Policy Advisory Board. "Asthma: Epidemic Increase-Cause Unknown." March 2002.

⁷ See <www.cdfactioncouncil.org/health%20title.htm>.

⁸ MA Department of Public Health. A Profile of Health Among Massachusetts Adults, 1998: Results from the Behavioral Risk Factor Surveillance System. July 2000.

⁹ See <www.aafa.org/states/display.cfm?State=ma> visited 5 Dec. 2002. 1998 statistics based on children defined as ages 17 or younger. Estimates of children with asthma are based on a National Health Interview Survey, which is a self-reported, home interview sample of the US population; guardians answer survey for persons under 19 years old.

¹⁰ See <www.aafa.org/states/display.cfm?State=ma> visited 5 Sept. 2002.

¹¹ Barnard, Anne. "Two Asthma Deaths Highlight Dangers." *Boston Globe* 31 Mar. 2001.

¹² Beardsley, Elizabeth. Massachusetts State House News Service. 9 Jan. 2001.

¹³ Ibid.

¹⁴ Boston Public Health Commission. *1998 Health of Boston: A Report on Boston Residents and Neighborhoods*.

The good news is that asthma, once diagnosed, can be controlled with proper monitoring and medical treatment, and management of environmental conditions that can trigger attacks. In addition to medicines, many other tools are available to help children reduce the severity and frequency of asthma attacks and thereby improve their quality of life. These tools include educational programs, intervention techniques and asthma-prevention products. The success of these tools is typically measured by how well children are able to control their asthma and avoid costly visits to the hospital or prevent missed school days.

NATIONAL, STATE AND LOCAL INITIATIVES

Efforts are underway across the country to combat the problem of pediatric asthma. Initiatives range from roving clinics on wheels to the passing of federal mandates for cleaner air rules.

NATIONAL EFFORTS

1990 Clean Air Act

In 1990 Congress adopted amendments to the Clean Air Act that enhanced air quality rules. These rules were strengthened in part as a response to the rising rates of respiratory problems, including asthma, that were linked to increased air pollution. The revisions targeted three specific problems: acid rain, urban air pollution and toxic air emissions. For instance, by 2004, states are required to comply with tough new regulations aimed at reducing smog and emissions of fine air particles.¹⁵

Presidential Task Force

In 1998, the President's Task Force on Environmental Safety Risk to Children declared asthma a national epidemic. The Task Force was charged with recommending strategies for protecting children's environmental health and safety, which include:

- Strengthening research on environmental factors that trigger asthma.
- Implementing public health programs to use and apply scientific knowledge to reduce the environmental factors that cause asthma. This would involve expanding support for state and local public health action; reducing second-hand smoke and other indoor triggers in the home; creating school-based asthma programs to identify triggers in the school and to promote student self-management of asthma; and to reduce outdoor air pollution.
- Establishing a nationwide asthma surveillance system for collecting, analyzing and disseminating information about the disease.¹⁶

EPA Tools for Schools

Since 1995 the Environmental Protection Agency (EPA) has distributed free kits to schools across the country that provide low-cost, practical ways to identify and solve indoor air quality (IAQ) problems found in educational facilities. These kits are known as "Tools for Schools" and provide school officials with information about common causes of poor indoor air quality. Step-by-step instructions also allow school staff to investigate complaints or ways to eliminate sources of environmental toxins. A notable principle of the

¹⁵ Heilprin, John. "EPA Agrees to Issue Tougher Air Quality Standards." Associated Press. 13 Nov. 2002.

¹⁶ President's Task Force on Environmental Health Risks and Safety Risks to Children. Asthma and the Environment: A Strategy to Protect Children. 28 Jan. 1999 (revised May 2000).

Tools for Schools kit is that the "expense and effort required to prevent most IAQ problems is much less than the expense and effort to solve problems after they develop."¹⁷ The EPA estimates that spending \$8000 total over 22 years on preventative maintenance can save more than \$1.5 million in future school building repairs.¹⁸

The Tools for Schools kit has been successfully implemented across Massachusetts school districts, including 100 schools.¹⁹

A Winchester Win

At the Lynch Elementary School in Winchester, parent Mary Beth Cassidy initiated the successful use of the EPA's "Tools for Schools" Kit and received the full participation and support of the principal, school nurses, other parents, and the Town. According to Mary Beth, her 5-year-old son, upon entering kindergarten, suffered greatly from asthma and allergy related health problems that required visits to the doctor every week and up to four different medications that had to be administered several times a day. After the school implemented recommendations of the kit, including such simple projects as removing carpet from classrooms and fixing an old HVAC system, her son's condition improved dramatically. Within one month from the time the HVAC system was repaired, her son was taken off all but one mild medication and even won a 1st grade road race.

LOCAL AND STATE GOVERNMENTS

Los Angeles County

In 1995 the Los Angeles County School District started the successful Breathmobile program with the Asthma & Allergy Foundation of America, Southern California Chapter and with a division of the LA County Department of Health Services. With start-up costs of about \$300,000, the program is now fully sustained by LA County.²⁰

The Breathmobile initiative is an example of a successful and sustainable public and private partnership that provides a continuous stream of care for young asthmatic

¹⁷ See < www.epa.gov/earth1r6/6pd/toolsforshschools/tools4u.htm > visited 22 Nov. 2002.

¹⁸ EPA 402-F-99-008 and Brian Reid. "Boost Schools' Air Quality to Help Kids Breathe: EPA." Reuters Health. 12 Aug. 2002. An economic analysis of repairs performed on an elementary school showed that if \$370 each year over 22 years (total \$8,140) had been spent on preventative maintenance, \$1.5 million in repairs could have been avoided.

¹⁹ Benoit, Eugene. Director, Tools for Schools Program. EPA. Telephone interview. 6 Dec. 2002. Schools that have been "showcased" by EPA as exemplary models for the Tools for Schools program include William Blackstone Elementary School in Boston, Burlington High School, Chicopee Public Schools, and Sharon Public Schools. According to the state Department of Education, there are 2,487 schools in Massachusetts. Therefore, about 4% of schools have implemented Tools for Schools kits. EPA considers successful implementation of Tools for Schools to entail at least 1) the creation of an Environmental Health and Safety Team that reviews IAQ issues and 2) creating action guidelines to follow that are similar to those suggested by the Tools for Schools Program.

²⁰ Jones, Dr. Craig. Founder, Breathmobile. Pediatric Grand Rounds Symposium. Boston University School of Medicine. 26 Sept. 2002.

schoolchildren. According to its founder, Dr. Craig Jones, the Breathmobile is a disease management program, the first of its kind to be accredited by the Joint Commission on Accreditation of Healthcare Organizations, and its success is due to being community based.

Comprehensive services are delivered through this "clinic-on-wheels." Participating physicians and trained health professionals visit schools and identify children with asthma, provide each asthmatic child with educational material, medication and a treatment plan, and also help the asthmatic's parents apply for health insurance when needed. The Breathmobile serves more than 85 schools, treats more than 4,000 students and has documented more than 19,000 visits.²¹

After receiving Breathmobile treatment, school absenteeism dropped by 80% among elementary school students and 50% among high schools students.²² These successful results have prompted the expansion of the Breathmobile program to other major cities including Phoenix, Chicago and Baltimore.

On the Road to Success

Phoenix is ranked third in the country in asthma deaths among adults and children. The Phoenix Breathmobile has seen over 600 children since its launch in January 2000. In the first year and a half of the program, the Breathmobile helped its group of asthmatic children do the following:

- Reduce emergency room visits by 84%;
- Reduce hospitalizations by 95%; and
- Reduce missed school days by 54%.²³

New York City

In 1997 New York City dedicated state funds to reduce the alarming hospitalization rates for asthma among its youth. Through an aggressive media and public education campaign, health officials reached out to parents and asthmatic children to teach them that asthma is a condition that can be controlled. A popular slogan of the campaign was "I have asthma but asthma doesn't have me." Third graders were taught about asthma, how to identify triggers and when to take medication. High-risk neighborhoods were given extra attention. It is now operating on a \$6 million budget. In November 2001, statistics from

²¹ Asthma and Allergy Foundation of America, Southern California Chapter. Press Release. 5 Mar. 2002.

²² Pollack, Cathy. Health Educator. Asthma and Allergy Foundation of America, Southern California Chapter. Telephone interview. 6 Dec. 2002. The LA Breathmobile program reports children during the first year of enrollment experienced 15% fewer ER visits, 30% fewer hospitalizations and significantly fewer missed days from schools due to illness (Mitka, Mike. "Chronic Disease Activists Target Arthritis, Asthma." JAMA 287:12. 27 Mar. 2002).

²³ Harris, Judy RN. Children's Hospital Phoenix. Telephone interview. 24 Apr. 2002.

the New York City Department of Health indicated a 33% reduction in hospitalization rates.²⁴

Connecticut

Labeled a "stellar example for the country" by an EPA official, Connecticut is paving the way to cleaner and healthier schools in all of their school districts.²⁵ A 2001 report by the Connecticut Academy of Science and Engineering found that 68% of Connecticut schools had IAQ problems.²⁶ The School Indoor Environment Resource Team convened at the Department of Public Health after some schools successfully implemented the Tools for Schools kit and eliminated most of the sources of indoor environmental pollution. The Resource Team aims to have the kit implemented in every school in Connecticut.

Vermont

In 2000, the Vermont Legislature passed Act 125 to address "issues of air quality and other environmental factors that might relate to the health of children, staff and teachers in..schools."²⁷ Act 125 directed the Vermont Department of Health to establish and make available to all schools a single source of information on indoor air quality (IAQ). The directive has led to the creation of a website maintained by DOH. This Act also recommends that schools develop programs to address IAQ concerns, and heavily emphasizes the EPA's Tools for Schools kit as a model.

²⁴ Caffarelli, Anna. New York City Asthma Partnership. "NYC Hospitalization Rates Decline." Nov. 2001.

²⁵ Benoit, Eugene. Director, Tools for Schools Program, EPA. Telephone interview. 24 Sept. 2002.

²⁶ See < www.dph.state.ct.us/BCH/EEOH/asthma/ctiaq.htm > visited 22 Nov. 2002.

²⁷ See < www.healthyvermonters.info/hp/act125/act125.shtml > visited 6 Dec. 2002.

MASS ACTION: PROGRESS MADE

Efforts occurring within Massachusetts to combat the epidemic of asthma deserve recognition.

- *Creating an asthma surveillance system: DPH secures grant from CDC towards national effort.* The Department of Public Health (DPH) recently secured a \$2.4 million grant from the Centers for Disease Control and Prevention (CDC), part of which will be used to develop a registry to track cases of pediatric asthma in Massachusetts. The registry will serve as a model for the nation. A preliminary study has already been launched to study asthma rates in the Merrimack Valley, and results from this study will help lay the foundation for a central registry.²⁸
- *Legislative proposals that directly address asthma.* In 2002, the state legislature passed a law allowing children to carry asthma inhalers during school hours. Prior to the law the inhalers had to be stored at the nurse's office.²⁹
- *Better Buses: cleaner MBTA vehicles.* The Massachusetts Bay Transit Authority (MBTA) has committed to updating its 980-bus fleet. The MBTA has replaced some of its air polluting diesel buses with cleaner natural gas buses.³⁰ By January 2005, all buses will either be replaced or retro-fitted with equipment to become lower emissions vehicles.³¹
- *Promoting Healthier Schools.* The Green Schools Initiative at the Massachusetts Technology Collaborative (MTC) is a \$13.5 million program that awards funds for the design and construction of energy efficient schools. In February 2002 the first nine schools to be selected as green schools were awarded grants ranging from \$130,000 to \$630,000.³² A total of 20 schools will be selected to receive the grants through the Green Schools program. Also, the MTC has provided a \$230,000 grant to the Department of Education to hire a green schools specialist at the School Building Assistance Program.

²⁸ DPH officials including Suzanne Condon, Assistant Commissioner (Bureau of Environmental Health) and Sally Fogerty, Assistant Commissioner (Bureau of Community and Family Health). Personal interviews. 4 Nov. 2002. Also, LaSalandra, Michael. "Agency Will Track Kids' Diseases for Environmental Link." *Boston Herald* 30 Oct. 2002. Massachusetts was one of seven states to receive a CDC grant. The grant was offered as a result of a recommendation in a 2001 CDC report to create a nationwide environmental health tracking system; the report referred to the existing system as inadequate.

²⁹ House Bill 4411, sponsored by Rep. Paul C. Demakis (D-Boston) was signed into law in Ch. 258 of the Acts of 2002.

³⁰ Ann Herzenberg, Chief Operating Officer, MBTA. Telephone interview. 22 Nov. 2002. According to MBTA officials, nearly 60% (600) of the MBTA buses will be replaced over the next two years by natural gas or lower-emissions buses. The silver line currently running 17 compressed natural gas buses.

³¹ *Ibid.*

³² Ashton, Kim. Program Manager, Green Schools Initiative, Massachusetts Technology Collaborative. Telephone interview. 19 Nov. 2002. The green schools are encouraged to use renewable energy resources such as wind and solar energy, natural lighting and also pay attention to indoor air quality such as ventilation and particulate matter. Another three grants were awarded in November 2002.

- *Community-Based Work.* Community-based, non-profit organizations have worked to provide the education and support needed to empower asthmatic children and their families. Many of these initiatives reach out to children in the environments where they spend most of their time: schools and the home.

Accolades for Asthma Prevention

The Boston Urban Asthma Coalition (BUAC) is an extensive group of more than 300 individuals and organizations dedicated to multiple issues surrounding asthma. Participating organizations include community activists who work alongside leading scientists and physicians to develop new approaches to prevention and intervention. To date, efforts have been focused on housing, health insurance and the school environment. Members of BUAC are strong advocates of policy changes and community-based initiatives to improve the quality of life for asthmatic children and their families. Members meet on a regular basis and conduct support groups for parents of asthmatic children. The coalition ultimately aims to develop a structure that increases the potential for substantially changing systems for asthma control in Boston.³³

The Jamaica Plain Asthma Environmental Initiative is another grassroots program. Created in 1998, this small non-profit group was established out of community discussions and is, to its knowledge, unique in that it provides both school and home-based intervention methods to combat asthma. The program is largely funded through private grants from hospitals and receives no direct state funding. A health educator on staff currently works with area elementary and middle schools to empower students by teaching them how to identify and reduce sources of poor indoor air quality, using resources such as EPA's Tools for Schools. Home visits are also conducted.³⁴

³³ Zotter, Jean. Executive Director, Boston Urban Asthma Coalition. Personal interview. 7 Dec. 2001.

³⁴ Meenakshi, Varma. Program Director, JP Asthma Environmental Initiative. Personal interview. 6 Sept. 2002.

PROBLEMS

Problems continue to exist that limit the effectiveness of efforts to control asthma rates in Massachusetts children. The Committee has identified problems in insurance coverage, state monitoring efforts and air quality in public schools and outdoors.

GAPS IN INSURANCE

Medical supplies and asthma educators are available to help properly identify, treat and manage children's asthma so that they can avoid costly and preventable visits to the doctor, hospital or emergency room.

In a University of Washington analysis, it costs nearly three times more to provide health care for a child with asthma than a child without asthma.³⁵

Table 1. Average Yearly Health Care Costs Are Significantly Higher for Children With Asthma*	
<i>Child with asthma</i>	<i>Child without asthma</i>
\$1129	\$468

**Children with asthma incurred 2.8 times as much in total health care expenditures than children without asthma. These costs are in 1987 dollars. ("The Economic Burden of Asthma in US Children: Estimates from the National Medical Expenditure Survey." Journal of Allergy, Clinical Immunology 1999; 104:957-63.)*

Asthma: A Costlier Chronic Condition

A 1999 study analyzed results of health care costs incurred by children ages 17 or younger with asthma. Data was taken from the National Medical Expenditures Survey, which was conducted earlier to determine the cost of health care services in the US. The 1999 survey concluded that children with asthma use more health care services in the following ways:

3.5 times as many hospitalizations;
3 times as many prescriptions taken; and
2 times as many emergency room visits.³⁶

³⁵ Lozano, Paula, Sean Sullivan, David Smith, and Kevin Weiss. Department of Pediatrics at the University of Washington, Seattle. "The Economic Burden of Asthma in U.S. Children: Estimates from the National Medical Expenditure Survey." *Journal of Allergy, Clinical Immunology* 104: 957-63. November 1999.

³⁶ Ibid.

Preventative measures can save lives and prevent suffering, while saving both insurers and the state a significant amount of money. However, many health insurance policies often do not cover these medical asthma supplies and education specialists.

Precedence in Diabetes Prevention

In Massachusetts, nearly 400,00 people are estimated to have diabetes. Until recently, access to proper preventive care for people with diabetes had been hit or miss with uneven insurance coverage in this area, despite the established importance of such care within the medical community.

In 2000, the Diabetes Cost Reduction Act was signed into law in Massachusetts. The new law required insurance policies to provide coverage for supplies, equipment, education, and training, so people with diabetes can manage their illness and avoid costly and disabling conditions, even death. Critical supplies included blood glucose monitoring strips, lancets, syringes, insulin pumps, and therapeutic, molded shoes for people with severe diabetic foot disease. The Legislature and Governor recognized that making such care available made both fiscal and moral sense by preventing the complications from the disease that can take such a toll on patients, their families and the health care system.³⁷

Preventative and medical management tools for asthma include peak flow meters that aid in determining the need and amount of medicine, spacers for asthma inhalers that help deliver the right amount of medication and allergen-free pillowcases and mattress coverings. Asthma sufferers often must pay out-of-pocket for these medical products, which range anywhere from \$10 to \$65 each.³⁸

Asthma educators are essential resources for asthmatic children and their families. Educators help empower asthmatic children and provide the expertise and support asthmatics need to successfully identify and manage their condition. For instance, at the Jamaica Plain Asthma Environmental Initiative, educators play a vital role in visiting school classrooms and homes to help school nurses, asthmatic children, peer educators or family members identify environmental triggers of asthma and find simple solutions to managing the illness.

³⁷ Office of Massachusetts State Senator Cheryl A. Jacques (D-Needham). Sen. Jacques was the lead Senate sponsor of legislation that was passed. Ch. 81 of the Acts of 2000, An Act Relative to Diabetes Cost Reduction, was approved by the Governor on May 4, 2000.

³⁸ Verma, Meenakshi. Program Director. JP Asthma Environmental Initiative. Telephone interview. 12 Oct. 2002. Online research at www.cvs.com and interviews with vendors at the November 2002 annual conference of the American Academy of Pediatrics in Boston.

INSURANCE IDEAS

Members of the Pediatric Work Group, a group made up of New England private managed care groups, insurance companies and public health groups, produced a report in June 2000 dealing with rising asthma rates among children.

One of the findings of this report underlined that "the lack of insurance coverage for the necessary core services and items that specifically address the needs of children with asthma hampers all other efforts to improve the management of asthma."³⁹

While recognizing that many managed care plans have good or adequate coverage, a recommendation in the report included that "all plans should take steps to provide necessary elements for children with asthma," including the following services and items:

- Diagnostic services (e.g. allergy and pulmonary function testing);
- Educational services (e.g. home visits);
- Pharmaceutical services (common medication for asthma and other clinical conditions commonly associated with asthma, such as atopic dermatitis);
- Equipment (peak flow meters, spacers, allergen-free bedding covers, nebulizers);
- Specialist services (care from allergists or pulmonary doctors);
- Case management; and
- Smoking cessation services.⁴⁰

Making a statement on the cost-benefit impact of implementing insurance coverage of certain asthma management supplies and services, the group said "that investments in improved management of pediatric asthma can produce savings in reduced emergency room visits and hospitalizations. Adequate asthma management can decrease the progression of the disease, leading to a lower burden of chronic illness over time, meaning less need for more intensive (and expensive) medical management, to say nothing of improving the quality of life for children with asthma. There are concrete direct and indirect savings, as well as many unmeasurable benefits and persuasive reasons to implement (insurance) coverage."⁴¹

LACK OF EFFECTIVE STATE MONITORING

No central state asthma registry. To fight a problem like asthma, one needs to study, define and understand the problem. Unfortunately, there is no statewide asthma registry in

³⁹ Pediatric Asthma Work Group of the Managed Care and Public Health Collaborative of New England. "Children with Asthma Can Lead Fully Active, Normal Lives: Managed Care and Public Health Working Together." June 2000. p. VII.A.1.

⁴⁰ Ibid. pp. VII.A.6- VVI.A.7.

⁴¹ Ibid. p. VII.A.2.

Massachusetts that can help researchers or public health officials fully understand the scope of asthma and develop ways to combat the problem.

No enforceable standards on indoor air quality. There is no comprehensive set of indoor air quality standards or regulations in Massachusetts.⁴² According to state environmental officials, there are no unified environmental statutes or standards to reference to help determine what steps, if any, to take if a building has an IAQ problem, such as poor ventilation or harmful levels of particulate matter in the air.⁴³ DPH officials may, upon request, investigate and identify problems with IAQ in public buildings.⁴⁴ However, in the absence of established IAQ regulations, officials do not have the authority to impose or enforce corrective actions once IAQ problems are identified.⁴⁵

SUBSTANDARD SCHOOLS

Children spend many hours in school buildings. According to the EPA, pollutants found within schools are two to five times higher than outside and can trigger asthma attacks.⁴⁶ Common indoor pollutants found in schools include mold, dust in carpets and dander from classroom pets.⁴⁷

Across Massachusetts, many public school buildings are in need of renovation and repair. A report issued in 1999 by TEAM Education Fund (now the Massachusetts Budget and Policy Center) on the status of the Commonwealth's public school buildings revealed many serious problems in Massachusetts. The TEAM report summarized the following:

- Massachusetts has among the worst school buildings in the nation.
- Massachusetts ranked 50th in the nation in having schools with adequate roofing structures. Leaky roofs spawn the growth of mold, a common trigger of asthma attacks.
- Massachusetts ranked second to last in the nation in having schools with at least one building showing a problem in structure or indoor air quality.⁴⁸

⁴² McCarthy, Regina. Assistant Secretary. Executive Office of Environmental Affairs. Telephone interview. 19 Nov. 2002; Condon, Suzanne. Assistant Commissioner. Bureau of Environmental Health Assessment. DPH. Personal Interview. 4 Nov. 2002.

⁴³ See < www.state.ma.us/dph/beha/iaq/overview.htm > visited 22 Nov. 2002. The Department of Public Health (DPH) can conduct inspections of schools upon request, but cannot impose or enforce corrective actions.

⁴⁴ Condon, Suzanne. Assistant Commissioner. BEHA, DPH. Personal interview. 4 Nov. 2002 and Roy Petre. Senior Policy Analyst, BEHA, DPH. Telephone interview. 11 Dec. 2002.

⁴⁵ Ibid. In the 2001-2002 legislative session S575/H2699 "An Act Establishing the Office of Indoor Air Quality" was filed by Rep. Frank Hynes (D-Marshfield) and Senator Therese Murray (D-Plymouth). This bill would establish a central office responsible for indoor air quality. The bill has not yet passed.

⁴⁶ EPA. "In the News, Indoor Air Quality Tools for Schools," < www.epa.gov/iaq/schools > visited 16 Sept 2002.

⁴⁷ EPA. "Asthma in Schools." < www.epa.gov/iaq/schools/asthma/asthma_in_schools.htm > visited 22 Feb. 2002.

⁴⁸ St. George, Jim. TEAM Education Fund. "Critical Condition: The State of School Buildings in Massachusetts." March 1999. This report is based on a US Census Bureau data for fiscal year 1996, which was released in March 1999. A problem building refers to that which contains "inadequate features." Building features include roofs, floors, doors, plumbing, heating, ventilation, air conditioning, electrical power and lighting. Massachusetts reported 75% of school buildings with at least one inadequate feature, behind Ohio (at 76%).

Schools built in the 1970s or earlier may experience more indoor air quality problems than newer buildings due to poor heating and air ventilation systems. In 1999 the DEP and DPH investigated 16 schools in the Northeast region of Massachusetts. The study found that all 16 schools had indoor air quality problems and that every school failed to meet at least one DEP regulation.⁴⁹

In the same year, DPH released a survey of 118 public elementary schools to determine the extent of Indoor Air Quality (IAQ) problems and found that:

- two-thirds of schools had IAQ problems;
- there was a significantly higher rate of asthma among students in schools with IAQ problems (7.9 versus 5.9 percent);
- mold was the top IAQ problem identified by school officials (34%); and
- few school officials (28%) knew of the free EPA Tools for Schools kit available to help identify and correct IAQ problems in the schools.⁵⁰

Lack of staff resources and support at DOE. To address the upkeep needs of schools, the Massachusetts Department of Education (DOE) runs the School Building Assistance (SBA) Program, which reimburses communities for major renovations and replacement of their schools.

SBA projects are the next largest capital projects in Massachusetts after the Big Dig.⁵¹ The SBA program budget runs about \$400 million annually and employs a mere six full-time employees, who handle everything from office calls to reviewing SBA construction sites and plans.⁵² Despite ongoing problems with IAQ in schools, there is no one specifically assigned to handle IAQ issues in the SBA division. A staff member who is dedicated to IAQ and other environmental issues could provide school districts with technical assistance needed to make decisions that result in healthier and longer-lasting buildings and that require less costly upkeep over the building's lifespan.

In July 2002 the DOE received a grant of nearly \$230,000 from the Green Schools Initiative at the Massachusetts Technology Collaborative (MTC) to fund an additional staff person. The purpose of the funding is to hire a green schools specialist who can assist in updating the SBA guidelines so that environmental and safety concerns, such as indoor air quality, are given greater weight in the awarding of SBA funds. No one has been hired yet because the job announcement has not been posted.

⁴⁹ Executive Office of Environmental Affairs. Power Point Presentation. "Municipal Compliance Assistance: Schools." Documents emailed to Bureau. 19 Nov. 2002.

⁵⁰ Bureau of Environmental Health Assessment, Department of Public Health. A Report on Issues Related to Indoor Air Quality Among Massachusetts Elementary Schools. January 1999.

⁵¹ Wulfson, Jeffrey. Associate Commissioner, School Finance and District Support, Department of Education (DOE). Telephone interview. 19 Nov. 2002. The Central Artery Project, also known as the Big Dig, is the most expensive capital undertaking in the country at \$14 billion.

⁵² Wulfson, Jeffrey. Associate Commissioner, School Finance and District Support, Department of Education (DOE). Telephone interview. 19 Nov. 2002. SBA officials admit that the program is understaffed. For instance, each of the two project managers is doing the jobs of three to five people; at any given time during the year they handle about 100 applications; ideally their workload should be between 20-30 applications.

OUTDOOR AIR QUALITY CONCERNS

Idle on the Idling Law

Poor outdoor environmental conditions in Massachusetts exacerbate health problems associated with asthma. For instance, in September 2002 state environmental officials reported 29 "bad air" days for the year, making it the highest number of such days in 14 years.⁵³ Part of the problem of bad air quality is due to exhaust and emissions from vehicles.

Motor vehicles, particularly those that use diesel fuel, add to poor air quality by increasing the amount of particulate matter, ozone and smog in our atmosphere, all of which aggravate asthmatic children.⁵⁴ A study by the University of Southern California, school absences due to sore throats, coughs and asthma attacks increase in the three to five days following a significant rise in ozone.⁵⁵

There are numerous ways to improve air quality in the environment, whether it be individual decisions to drive fewer days each week or states, like California, passing the nation's strictest auto emissions standards.⁵⁶ In August 2002 the EPA cited the Massachusetts Port Authority and ten companies for violating clean air regulations at Logan Airport when inspectors found that buses idled more than five minutes at one time.⁵⁷ The EPA issued fines totaling more than \$27,000.⁵⁸

According to the EPA, diesel bus emissions have been linked with high asthma rates in urban areas. As stated by an EPA official, "Bus idling is an easily avoided source of pollution."⁵⁹ The state anti-idling law (M.G.L. Ch. 90 §16A) bans unnecessary idling for more than five minutes.⁶⁰

⁵³ Fields, Richard. Environmental Analyst. MA DEP. Email correspondence. 23 Sept. 2002.

⁵⁴ American Lung Association. "Diesel Exhaust and Air Pollution." See <www.lungusa.org/air/airout00_diesel.html> visited 18 Dec. 2002. Diesel exhaust contains vapors and fine particles, including more than 40 chemicals that are considered toxic air contaminants by California's strict air quality regulations. Diesel engines produce almost 1/4 of nitrogen oxide in the air, a gas responsible for creating ozone and smog and emit 100 times more "sooty particles" than gasoline engines.

⁵⁵ American Lung Association. State of the Air 2002 Report, Health Effects of Ozone. See <www.lungusa.org/air2001/effects02/html> visited 12 Sept. 2002. Ozone increases result from hot days, stagnant conditions and heavy traffic conditions. School buses in some Boston neighborhoods will be retrofitted to use cleaner diesel fuel as well. In Spring 2002, the US EPA cited a waste disposal company for illegally and dangerously handling large electrical appliances, emitting harmful chemicals into the air. As a result, the company will spend \$1.4 million to make 150 of 200 Boston school buses more environmentally friendly. (Greenberger, Scott, "Fine Will Pay for Clean Air, New Park." Boston Globe 26 Apr. 2002; B3.)

⁵⁶ Civian, Fred. Deputy Director. Transportation Unit. Bureau of Waste Prevention, Department of Environmental Protection. Telephone interview. 16 Dec. 2002.

⁵⁷ State Capitol Briefs, Massachusetts State House News Service. 7 Aug. 2002.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Fines imposed for violating this motor vehicle law can run \$100 for the first offense to \$500 for subsequent offenses. In addition, local, health and environmental officials are able to enforce the idling law through environmental code (310.CMR 7.11) and levy fines of upwards to \$25,000 per violation.

At the city level few idling tickets are actually issued to offenders.⁶¹ Issuing tickets may not be necessary if successful public education campaigns are carried out.

BUSES GET BETTER

The City of Boston led the charge to stop tour buses from idling through an education campaign that resulted in raising the rate of compliance from "essentially zero to 85%."⁶² Residents of Boston neighborhoods complained that buses, with engines running, parked one after another next to their homes or workplaces. City officials teamed up with the DEP and EPA to educate tour bus operators on the state idling law and associated fines. The campaign was successful through the use of persistent reminder letters, inspectors hitting the pavement to talk one-on-one with bus drivers and cooperation from bus companies.⁶³

⁶¹ Loh, Penn. Executive Director, Alternatives for Community and Environment. Email correspondence. 19 Mar. 2002.

⁶² Glascock, Bryan. Executive Director, Boston Air Pollution Control Commission, City of Boston. Telephone interview. 1 Oct. 2002.

⁶³ Ibid.

FINDINGS AND RECOMMENDATIONS

INSURANCE AND EDUCATION

FINDING: Medical insurers are not required to cover asthma medical supplies or education specialists, despite their usefulness in identifying, managing and controlling asthma. Medical supplies that could aid children in managing and controlling their asthma include peak flow meters that help determine the appropriate time for asthma medication; spacers for asthma inhalers that help deliver the right amount of medication; and allergen-free pillowcases and mattress covers. Certified asthma educators are also critical in providing the consistent education, expertise and support asthmatics need to successfully identify and manage asthma.

RECOMMENDATION: Massachusetts law should require health insurance coverage of asthma medical supplies and certified asthma educators. Preventative measures can save lives and prevent suffering, while saving both insurers and the state a significant amount of money.

FINDING: Programs like the Breathmobile, which is a roving clinic on wheels for asthmatic school children that is used in a number of urban areas across the country, have shown significant results. These programs provide a comprehensive asthma management strategy. For instance, after the first year of enrollment, students participating in the Los Angeles Breathmobile program reported up to 80% fewer school absences due to asthma.

RECOMMENDATION: The Massachusetts Department of Public Health (DPH) should establish a comprehensive asthma education and intervention program for use in the Commonwealth that draws upon the experiences of programs like the Breathmobile.

STATE MONITORING EFFORTS

FINDING: The lack of a centralized state registry of data on asthma makes it impossible to understand and analyze the scope of the problem and to develop comprehensive pediatric asthma management strategies. In a step towards the right direction, DPH secured federal grant money to develop a model pediatric asthma tracking system. Statutory language is needed to create an all-encompassing asthma registry and to effectively integrate data from the pediatric asthma tracking system.

RECOMMENDATION: Massachusetts should establish a centralized state asthma data registry based on current work by DPH to develop a pediatric asthma tracking system. The Legislature should adopt any necessary legislation or changes to the law, such as reporting requirements, to maximize the effectiveness of the registry.

FINDING: Despite growing problems of poor air quality in schools and other public buildings, there is no enforceable set of indoor air quality regulations in Massachusetts.

RECOMMENDATION: DPH should be authorized and directed to promulgate and enforce indoor air quality regulations in schools and public buildings.

PROTECTING CHILDREN IN SCHOOLS

FINDING: The School Building Assistance (SBA) program at the Department of Education (DOE) has no staff member dedicated to reviewing issues of environmental health, safety and indoor air quality (IAQ) in public schools. Nearly \$230,000 in grant money was awarded to DOE in July 2002 to hire a green schools specialist that could review IAQ issues, but the job announcement has not yet been posted.

RECOMMENDATION: By March 2003 the DOE should hire a green schools specialist that can assist in updating the SBA guidelines to encourage a stronger commitment to environmental health, safety and IAQ issues in schools, including stronger incentives to develop and implement maintenance plans.

FINDING: The EPA has developed and distributes Tools for Schools, a kit designed to help school officials identify and reduce problems with indoor air quality. Although many schools in Massachusetts have received the kit, the vast majority has not implemented the kit recommendations. Approximately 4% of Massachusetts schools have successfully implemented these kits.

RECOMMENDATION: All schools in Massachusetts should implement the EPA's Tools for Schools kit or a similar plan. Vermont and Connecticut have embarked on an initiative to implement the kit in all their schools; Massachusetts should make the same commitment. The state Board of Education should adopt the goal of implementing Tools for Schools kits in every Massachusetts public school.

AIR QUALITY

FINDING: Idling vehicles, including public transit buses and other vehicles that use diesel fuel, are polluting outdoor air. In 2002 Massachusetts experienced the highest record number of "bad air days" in 14 years. The state's anti-idling law, which restricts unnecessary idling to five minutes, was implemented to mitigate air pollution problems but according to state and local officials, many motorists are unaware of the law.

RECOMMENDATION: There should be more emphasis on education and enforcement of the state's idling law. DEP should work with other state agencies and environmental organizations to initiate a statewide public media campaign about the anti-idling law. For instance, brochures about the anti-idling law could be distributed to all motorists through license registration renewal mailings by the Registry of Motor Vehicles, and information on the anti-idling law should be featured on the RMV's frequently-used website.

